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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application:	Baranda, et al.
Serial No.:	10/010,937
Filed:	11/13/2001
Group Art Unit:	3682
Examiner:	Charles, Marcus
For:	ELEVATOR BELT ASSEMBLY WITH NOISE AND VIBRATION REDUCING GROOVELESS JACKET ARRANGEMENT

APPEAL BRIEF

Box AF
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant now submits its brief. No fees are due because Applicant already paid them when filing a first appeal brief for this application.

Real Party in Interest

Otis Elevator Company, which is the assignee of this application, is the real party in interest. Otis Elevator Company is a business unit of United Technologies Corporation.

Related Appeals and Interferences

There are no related appeals or interferences.

Status of the Claims

Claims 1-9, 14-24 and 26-42 are pending and on appeal. Each of these claims stands rejected under 35 U.S.C. §103.

Claims 10-13 and 25 have been cancelled.

Status of Amendments

There are no unentered amendments.

Summary of Claimed Subject Matter

This invention generally relates to load bearing members such as flat belts used for moving and supporting an elevator car within an elevator system. This invention relates to a unique load bearing member and unique method of making a load bearing member, which avoids drawbacks associated with conventional belt-making technologies.

Independent claim 1 recites:

> 1. A method of making an elevator belt assembly having a plurality of cords within a jacket, comprising the steps of:
>
> (a) aligning the plurality of cords in a selected arrangement;
>
> (b) applying a selected jacket material to the cords to encase the cords in the jacket with a generally smooth, uninterrupted surface on an exterior of the jacket that is adapted to contact sheaves in an elevator system; and
>
> (c) maintaining a selected tension on each of the cords on an individual cord basis while applying the jacket such that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from the generally smooth, uninterrupted surface on the jacket along the length of the belt assembly.

Figure 4 schematically illustrates a method of making an example belt assembly 40 (see Figure 2) that includes a plurality of cords 42 and a jacket 44. A cord supply 50 provides the cords 42, which may be maintained on a plurality of spools, for example. (Paragraph 32, page 7).

A positioning device 52 aligns the cords 42 in a desired alignment so that the cords 42 will extend parallel to a longitudinal axis of the belt assembly 40. A tensioning device 54 controls an amount of tension on the cords 42 during the jacket application process. (Paragraph 34, page 8).

In this example, the tension on each individual cord 42 is maintained at a desired level throughout the process of making the belt assembly so that the belt configuration or geometry is controlled as much as possible. The tension on each individual cord 42 may be different with respect to the other cords. In one example a base tension of approximately 50 Newtons is placed on each cord and a sample belt assembly is made. The sample belt assembly then is inspected to make sure that the geometry is as desired. If there are undesirable variations, such as a slight curvature, the tension on one or more individual cords is adjusted relative to the tension applied to other cords to address the undesirable belt geometry variation. One example implementation includes making several samples, taking measurements and making adjustments to determine the necessary individual cord tensions that yield the desired belt geometry. (Paragraph 35, page 8).

It is noteworthy that the disclosed example eliminates cord supports in the jacket application portion of the manufacturing process and, therefore, the tensions on the cords are used to maintain the horizontal positions of the cords (as seen in Figures 2, 3 and 5, for example) the same throughout the jacket application process. (Paragraph 36, pages 8 and 9).

Conventional practice included using a cord support having a plurality of ridges that the cords would rest upon during a jacket application process. Such processes would result in a configuration as schematically shown in Figure 1, which includes a plurality of grooves formed on one side of the belt corresponding to the side where the cord supports supported the cords. Because the cords were supported in that manner, controlling individual tensions on the individual cords to maintain a belt geometry was not necessary. With this invention, the undesirable resulting grooves in the jacket can be eliminated. To achieve a desired, controlled belt geometry, individually controlled cord tensions provide for controlling the position of the cords within the jacket in the absence of cord supports.

Independent claim 15 is a product by process claim that includes process steps like those in claim 1. Claim 15 recites:

> 15. An elevator belt assembly made by the process, comprising the steps of:
> (a) aligning a plurality of cords in a selected arrangement;
> (b) applying a selected jacket material to the cords to encase the cords in the jacket with a smooth, uninterrupted surface on an exterior of the jacket that is adapted to contact sheaves in an elevator system; and
> (c) maintaining a selected tension on each of the cords on an individual cord basis while applying the jacket such that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from the smooth, uninterrupted surface on the jacket along the length of the belt assembly.

Rather than restate the portions of the specification referenced for purposes of discussing claim 1, Applicant directs the Board's attention to the discussion above to the extent that the Board requires any further elaboration regarding claim 15.

Independent claim 14 recites:

> 14. An elevator belt assembly, comprising:
> a plurality of cords aligned generally parallel to a longitudinal axis of the belt along a length of the belt; and
> a jacket over the cords, the jacket including a generally smooth, uninterrupted exterior surface extending along the entire belt length that is adapted to contact other components in an elevator system as the belt moves, wherein the jacket comprises a waxless polyurethane.

One such example elevator belt assembly is shown in Figure 2. That example has a plurality of cords 42 aligned generally parallel to a longitudinal axis of the belt along a length L of the belt. (Page 4, paragraph 19, lines 2-3)

The example jacket 44 of Figure 2 has exterior surfaces 46 and 48. At least one of the surfaces 46 or 48 will contact other components in an elevator system as the belt moves. (Page 6, paragraph 27, lines 1-3) At least one of the surfaces 46 or 48 is smooth and uninterrupted along the entire length L of the belt assembly 40. (Page 6, paragraph 27, lines 3-5) In one example, the selected jacket material is a waxless polyurethane (page 12, paragraph 53, line 1)

Independent claim 21 is a method claim that includes a waxless urethane jacket material (page 12, paragraph 53, line 1). The discussion of claim 14 is useful for understanding claim 21 along with the discussion of claim 1 above.

Independent claim 26 is a product by process claim in which the process is the same as the steps recited in claim 21.

Claim 24 is an independent claim that recites:

> 24. A method of making an elevator belt assembly having a plurality of cords within a jacket, comprising the steps of:
>
> (a) aligning the plurality of cords in a selected arrangement;
>
> (b) applying a selected urethane jacket material to the cords to encase the cords in the jacket with a generally smooth, uninterrupted surface on an exterior of the jacket that is adapted to contact sheaves in an elevator system;
>
> (c) maintaining a selected tension on the cords, respectively, while applying the jacket such that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from the generally smooth, uninterrupted surface on the jacket along the length of the belt assembly; and
>
> (d) using a molding device that has an opening through which the belt assembly proceeds, the opening comprising a non-linear configuration such that a thickness of the jacket exiting the opening varies across the width of the jacket.

In addition to maintaining the selected tension on the cords, respectively, claim 24 reads on using a molding device as shown in Figure 6. In that example, the opening 80 of a molding device 70 has a non-linear configuration along the portions of the opening that form the surfaces 46' and 48' of the jacket 44. The example non-linear configuration provides for differences in the thickness of the belt assembly as seen across the width at least at that stage of the assembly process. (Paragraph 49, page 11).

The varying, non-linear configuration of the surfaces 46' and 48' as shaped by the opening 80 are designed to accommodate the variation in the amount of shrinkage across the width of the belt that will occur during the finishing and curing of the belt assembly. In the areas

where cords 42 are present, there will be less shrinkage, for example, because of the presence of the cord material. In some examples, the cord material comprises steel. The portions of the belt assembly where no cords are present (i.e., the portions that provide the spacing between the cords) temporarily have a greater thickness because there will be more shrinkage at those locations. (Paragraph 50, pages 11-12).

Varying the thickness across the width of the assembly facilitates achieving a final resulting flat, parallel alignment between the surfaces 46 and 48 of the jacket 44. There is nothing in the art that expressly or inherently discloses or even suggests this approach for achieving a flat belt surface.

Grounds of Rejection to be Reviewed on Appeal

Claims 1-4, 9, 15-16, 24, 40 and 42 stand rejected under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* reference (WO 01/14630) and the *Kilborn, et al.* reference (U.S. Patent No. 2,740,459).

Claim 2 stands rejected under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* reference, the *Kilborn, et al.* reference and the *Nassimbene* reference (U.S. Patent No. 2,194,833).

Claims 5-7 stand rejected under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* and *Kilborn, et al.* references combined with the *Harper* reference (U.S. Patent No. 3,848,037).

Claim 8 stands rejected under 35 U.S.C. §103 as being unpatentable over the proposed combination of the *Baranda* reference, the *Kilborn, et al.* reference and the *Tsai* reference (U.S. Patent No. 6,727,433).

Claim 14 stands rejected under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* reference and the *Harper* reference.

Claims 19 and 24 stand rejected under 35 U.S.C. §103 based upon the *Baranda* reference.[1]

Claims 20, 26 and 27 stand rejected under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* reference and the *Harper* reference.

Claims 35 and 39 stand rejected under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* and *Harper* references combined with the *Pitts, et al.* reference (U.S. Published Application No. 2003/0069101).

Claim 41 stands rejected under 35 U.S.C. §103 based upon the combination of the *Baranda* and *Harper* references.[1]

Argument

There is no *prima facie* case of obviousness against any of Applicant's claims. There are several independently dispositive reasons why the Examiner's proposed combinations are not adequate for establishing a *prima facie* case of obviousness. Applicant addresses each of those with regard to each of the rejections as follows.

The rejection of claims 1-4, 9, 15-16, 24, 40 and 42 under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* and *Kilborn, et al.* references must be reversed

The *Baranda* and *Kilborn, et al.* references cannot be combined as proposed by the Examiner. There is no *prima facie* case of obviousness because the proposed combination cannot be made.

The *Baranda* reference shows a flat belt for use in an elevator system.

[1] It is not clear from the Office Action exactly how claims 19, 24 or 41 are being rejected in the Final Office Action.

The *Kilborn, et al.* technique cannot be used to make a belt as shown in the *Baranda* reference as suggested by the Examiner. The *Kilborn, et al.* reference includes using limited length sections of a fabric layer applied to a conveyor belt. If such a sectional, limited-length approach were used for an elevator belt, that would cause disruptions such as seams in the surface of the belt. Such disruptions would be even worse than the prior art elevator belt grooves that are disadvantageous as described in Applicant's background and shown in Applicant's Figure 1. The *Kilborn, et al.* technique is, therefore, not usable for making elevator belt assemblies like the one shown in the *Baranda* reference. Because the proposed combination does not provide a useful result, the proposed combination cannot be made and there is no *prima facie* case of obviousness.

Additionally, the *Kilborn, et al.* technique is not suitable for making the type of belt shown in the *Baranda* reference, in which cords are embedded in and spaced from the surfaces of the jacket material. The *Kilborn, et al.* reference requires, for example, that the cords rest on a table and then material is applied to the cords. See, for example, column 5, lines 35-36, 45 and 51-54. If one were to rest cords on the table as taught by *Kilborn, et al.* and apply a material to them while they are resting on that table, that would not allow for forming a jacket that is on both sides of the cords as required in the *Baranda* reference. The only way to utilize the *Kilborn, et al.* technique for hypothetically making a belt as shown in the *Baranda* reference would require significant reconstruction of the *Kilborn, et al.* technique, which would only be based on improper hindsight. The Examiner's proposed combination cannot be made because the *Kilborn, et al.* technique does not provide a result consistent with the *Baranda* reference and without a workable result, the combination cannot be made and does not establish a *prima facie* case of obviousness.

Even if the combination could be made, the result is not consistent with Applicant's claims and there is no *prima facie* case of obviousness.

Kilborn, et al. teach an arrangement where individual weights 18 are suspended from clamping members 19 attached to cables. (Column 3, lines 48-50) Then, jaws of a clamping mechanism 11 clamp a group of cables so that the cables are clamped between the clamping mechanism 11 and the clamping mechanism 13. (Column 3, lines 27-31 and column 4, lines 2-4) Once a group of cables are clamped in two places, the individual weights 18 are removed from the cables. (Column 4, lines 5-6) The clamped portions are not tensioned in a controlled manner once the weights are removed. The clamped portions of the cords are not "individually" tensioned. Column 1, lines 36-38 and 60 teach that each of the tension elements in *Kilborn, et al.* have the same tension when they are clamped in position.

Only after the weights are removed and the cables are no longer individually tensioned, are the cables in the *Kilborn, et al.* reference "ready for the next operation, which is the application of the material which bonds the clamped sections of the stationary cables and cords together and provides a suitable body to which the fabric layers can be applied to form the completed tension section of the belt or at least enough of the tension section so that it can be wound upon a drum and then transferred to a position where the additional layers of fabric can be applied." (Column 5, lines 51-58)

Accordingly, *Kilborn, et al.* does not teach a technique for realizing at least two aspects of Applicant's claimed invention. One is that *Kilborn, et al.* can only apply a jacket to a limited section at a time and therefore introduces seams or interruptions in the applied material layer. That is not the same as Applicant's claimed technique that involves a generally smooth, uninterrupted surface on an exterior of the jacket.

Kilborn, et al. also fail to teach maintaining tension on individual cords on an individual basis while applying a jacket material. Instead, *Kilborn, et al.* specifically teaches removing the

weights that provided individual tensions and using clamping mechanisms that do not differentiate between the cords such that no individual tension on the cords is maintained any longer. This occurs before applying any material to the cords in *Kilborn, et al.* Accordingly, even if one made the combination proposed by the Examiner the result would not be the same as at least some of Applicant's claims. There is no application of a jacket material while maintaining tensions on the cords on an individual cord basis. Therefore, the proposed combination does not result in the claimed invention and there is no *prima facie* case of obviousness against Applicant's claims.

Claims 1 and 15

Claims 1 and 15 require maintaining a selected tension on each of the cords on an individual cord basis while applying the jacket such that the tension on the cords controls positions of the cords within the jacket. The *Kilborn, et al.* technique relies upon clamping the cords lying on a table to control the position of the cords relative to the material that is applied to those cords while they are stationary on the table. The *Kilborn, et al.* technique does not include maintaining a selected tension on each of the cords on an individual cord basis while applying the jacket. Instead, clamps are applied at each end of the table to hold all of the cords in place against the table. The *Kilborn, et al.* reference does not teach using tension as recited in claim 1 so that even if the combination could somehow be made, the result is not the same as the claimed invention.

Claims 2 and 16

Applicant's claims 2 and 16 include maintaining different tensions on different cords. The *Kilborn, et al.* reference teaches the opposite. At column 1, lines 36-38 and 60, *Kilborn, et al.* state "it is very essential that each of the tension elements should have the same tension while being built into the belt." Using the same tension on every one of the tension elements or cords according to

Kilborn's teachings is the opposite of what is recited in claim 2 and there is no *prima facie* case of obviousness against that claim.

The *Baranda* reference does not help the Examiner's case in this regard. There is no discussion in the *Baranda* reference regarding maintaining different tensions on different cords and even if it did, the Examiner proposes to use *Kilborn, et al.'s* technique, which is the opposite of what is recited in claim 2 as just explained.

Claim 3

Claim 3 includes steps of making a sample belt assembly, inspecting the sample belt assembly, determining whether the sample belt assembly is consistent with a desired configuration and adjusting the tension maintained on at least one of the cords if the determined configuration is not consistent with the desired configuration. This is nowhere in any way suggested or contemplated by the *Baranda* reference or the *Kilborn, et al.* reference. Even if those references could somehow be combined, the result would not be consistent with what Applicant recites in claim 3. There is no *prima facie* case of obviousness against that claim.

Claim 9

Claim 9 includes forcing the jacket into a shaping device that ensures that the jacket exterior has a desired configuration and cooling the belt assembly. It cannot be obvious to do that in view of *Kilborn, et al.'s* teachings. In the *Kilborn, et al.* reference, successive layers are laid down upon the table beginning with the cords and then the bonding material. Later, fabric layers are applied. There is nothing about that process that in any way suggests there would be any benefit to incorporating a shaping device and cooling as recited in Applicant's claim 9. There is no *prima facie* case of obviousness against this claim.

Claim 24

In addition to the reasons why there is no *prima facie* case of obviousness explained above, claim 24 includes further limitations that are not even suggested by the Examiner to be satisfied by the proposed combination of the *Baranda* and *Kilborn, et al.* references. Claim 24 includes using a molding device that has an opening through which the belt assembly proceeds, the opening comprising a non-linear configuration such that a thickness of the jacket exiting the opening varies across the width of the jacket. Not even the Examiner contends that these limitations are found in the proposed combination of the *Baranda* and *Kilborn, et al.* references. There is no possible *prima facie* case of obviousness against claim 24 even if those two references could be combined, which Applicant disputes as explained above.

Claims 40 and 42

There is an additional reason why there is no *prima facie* case of obviousness against claims 40 and 42. Each of these claims requires that all of the cords of the belt assembly have the same construction. The *Baranda* reference specifically teaches an arrangement where the cords have different constructions (e.g., the cords are not all of the same construction). It is not possible to modify the *Baranda* reference to make it consistent with claims 40 and 42 because that would go directly contrary to the express teachings of that reference. Therefore, there is no *prima facie* case of obviousness against either of claims 40 or 42.

The rejection of claim 2 under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* and *Kilborn, et al.* references combined with the *Nassimbene* reference must be reversed.

As explained above, the *Kilborn, et al.* reference does not teach maintaining different tensions on different cords as recited in claim 2. The *Kilborn, et al.* reference teaches the opposite. The Examiner proposes to remedy this defect in the proposed combination of the *Baranda* and

Kilborn, et al. references by adding the *Nassimbene* reference. Even that does not establish a *prima facie* case of obviousness against claim 2.

In the *Nassimbene* reference, different lengths and higher tension occur in the middle of a V-shaped, arched belt. Neither the *Kilborn, et al.* nor the *Baranda* reference would allow for or benefit from such a belt configuration. Therefore, there is no motivation for adding the teachings of the *Nassimbene* reference to the proposed combination of the other two references. Further, the *Kilborn, et al.* reference expressly teaches maintaining the same tension on every cord. To add the *Nassimbene* reference as proposed by the Examiner, therefore, would be directly contrary to the teachings of the *Kilborn, et al.* reference. Such a modification cannot be made and the proposed combination cannot possibly establish a *prima facie* case of obviousness against claim 2.

The rejection of claims 5-7 under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* and *Kilborn, et al.* references combined with the *Harper* reference must be reversed.

Claims 5-7 include a waxless urethane jacket material. There is no *prima facie* case of obviousness against any of these claims because none of the cited references disclose a waxless urethane jacket material. The *Harper* reference does not teach that its polyurethane material does not contain any wax. It is not a reasonable inference to assume that a special, waxless polyurethane would be used when conventional polyurethanes typically include a wax as one of the polyurethane components. In fact, the *Harper* reference teaches that a waxy mold release agent is present. Therefore, even if the proposed combination of these three references could be made, the result would not include a waxless urethane jacket material.

Additionally, the proposed combination of the *Baranda, Kilborn, et al.* and *Harper* references cannot be made. There is no benefit to adding *Harper's* teachings in the context of the *Baranda* or the *Kilborn, et al.* references. Where there is no benefit to a proposed combination, the

combination cannot be made and there is no *prima facie* case of obviousness. In this instance, *Harper* uses a water-soluble barrier material added onto a polyurethane to facilitate removing a waxy or oily release agent. Such a barrier material has no use when making the belts of the *Baranda* or *Kilborn, et al.* references. The *Harper* reference teaches avoiding a film left by a waxy or oily release agent on the surface of a molding because the polyurethane article will be subsequently painted. The belts in the *Baranda* and *Kilborn, et al.* references are not painted and, therefore, the teachings of the *Harper* reference having nothing to do with the teachings of the other two references and there is no benefit for making the proposed combination. Without any benefit, the combination cannot be made and there is no *prima facie* case of obviousness against any of claims 5-7.

The rejection of claim 8 under 35 U.S.C. §103 based upon the proposed combination of the *Baranda, Kilborn, et al.* and *Tsai* references must be reversed.

This proposed combination cannot be made. The *Kilborn, et al.* and *Baranda* references require a flat belt configuration. The molding device in the *Tsai* reference is intended to result in an article as shown in Figure 1 of that reference, for example. Such an article does not have a flat belt configuration. Therefore, the proposed combination goes directly contrary to the teachings of the *Baranda* and *Kilborn, et al.* references.

Additionally, the *Tsai* reference is from an unrelated art and is not properly combinable with the *Baranda* and *Kilborn, et al.* references (even if it were somehow possible to provide the belts of either of those references with the cross-sectional configuration provided by the mold of the *Tsai* reference). There is no *prima facie* case of obviousness against claim 8.

The rejection of claim 14 under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* and *Harper* references must be reversed.

As already discussed, the *Harper* reference does not disclose a waxless urethane as contended by the Examiner. Moreover, there is no benefit to the proposed combination and the references cannot be combined. The *Harper* reference is concerned with a polyurethane article that is painted after it is removed from a mold. There is no concern with painting the belt of the *Baranda* reference and, therefore, no benefit flows from the proposed combination. Even if the *Harper* reference could be strained to be interpreted as teaching a waxless polyurethane, it cannot be combined with the *Baranda* reference and there is no *prima facie* case of obviousness against claim 14.

The rejection of claims 19 and 24 based upon the *Baranda* reference must be reversed.[2]

The rejection of claims 19 and 24 must be reversed, at least in part, because there is no explanation for how that reference could possibly establish a *prima facie* case of obviousness against those two claims. Claim 24, for example, includes a molding device that provides a varying thickness of a jacket exiting the opening of the molding device. Nothing in the *Baranda* reference suggests that arrangement. The Examiner cannot possibly add the teachings of the *Tsai* reference in an attempt to establish a *prima facie* case of obviousness against claim 24. As described above, that reference cannot be combined with the *Baranda* reference.

Claim 19 depends from claim 15. The Examiner already admits that claim 15 is not obvious over the *Baranda* reference alone. Therefore, claim 19 cannot possibly be obvious in view of the *Baranda* reference alone.

[2] As noted above, Applicant does not fully understand the Examiner's position regarding claims 19 and 24. In any event, there is no *prima facie* case of obviousness.

The Examiner has utterly failed to establish a *prima facie* case of obviousness in paragraph 5 on page 4 of the Final Office Action against either of claims 19 and 24.

The rejection of claims 20, 26-27 under 35 U.S.C. §103 based upon the proposed combination of the *Baranda* and *Harper* references must be reversed.

Applicant has already explained that the *Harper* reference does not teach what the Examiner contends. There is no teaching in the *Harper* reference of a waxless urethane material. Therefore, even if the combination could be made, the result is not what the Examiner contends and there is no *prima facie* case of obviousness.

Moreover, the combination cannot be made because there is no benefit to making it. There would be no benefit to the teachings of the *Baranda* reference to apply the *Harper* technique, which is directed to preparing an article for being painted. There is nothing about the belt in the *Baranda* reference that in any way suggests it would be painted. Therefore, there is no benefit and the proposed combination cannot be made.

Claim 20

Even if the Examiner were correctly interpreting the *Harper* reference and it could somehow be combined with the *Baranda* reference, the result is still not consistent with Applicant's claim 20. There is nothing in those references or their proposed combination that satisfies the limitations of claim 20 which includes finishing the exterior of the jacket by forcing the jacket into a shaping device that ensures that the jacket exterior has a desired configuration and cooling the belt assembly. There is no *prima facie* case of obviousness against claim 20.

Claim 26

Even if the *Harper* and *Baranda* references could be combined, there is nothing within them to suggest maintaining a selected tension on cords respectively while applying a jacket such

that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from a smooth, uninterrupted surface on the jacket along the length of the belt assembly. These limitations of claim 26 cannot be found even in the improper combination of the *Baranda* and *Harper* references. That is yet another reason why there is no *prima facie* case of obviousness against claim 26.

The rejection of claims 35 and 39 under 35 U.S.C. §103 based upon the proposed combination of the *Baranda, Harper* and *Pitts, et al.* references must be reversed.

First of all, the *Baranda* and *Harper* references cannot be combined for the reasons already given. The proposed addition of the teachings of the *Pitts, et al.* reference does not remedy the defect in the improper combination of the *Baranda* and *Harper* references. Moreover, the *Pitts, et al.* reference could only possibly qualify as prior art, if at all, against Applicant's claims under 35 U.S.C. §102(e). The *Pitts, et al.* reference and Applicant's claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person. The *Pitts, et al.* reference and Applicant's application are commonly owned by Otis Elevator Company. Therefore, the *Pitts, et al.* reference cannot be used in an attempt to establish a *prima facie* case of obviousness pursuant to 35 U.S.C. §103(c). There is no basis in the statute for the Examiner's refusal to withdraw the rejection of claims 35 and 39. That rejection must be reversed according to the plain language of Title 35 of the United States Code §103(c).

The rejection of claim 41 based upon the *Baranda* and *Harper* references must be reversed.

The Examiner does not provide any explanation for how the *Baranda* and *Harper* references could possibly provide an arrangement where a plurality of cords are all of the same construction. The *Baranda* reference explicitly teaches different constructions for different cords within the jacket of the *Baranda* reference. There is nothing about the *Harper* reference that would

change that even if those references could somehow be combined. Moreover, it is not possible to modify a reference to go directly contrary to its express teachings because that would remove an intended feature of the teachings of that reference. There is no possible way to establish a *prima facie* case of obviousness against claim 41 using the *Baranda* reference as a base reference.

CONCLUSION

There is no *prima facie* case of obviousness against any one of Applicant's claims. As explained above, the Examiner's various proposed combinations cannot even be made. Even if any of them could be made, the result would not be what the Examiner contends and would not be consistent with the claims against which the Examiner applies the improper combinations. All rejections must be reversed.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE

I hereby certify that this Appeal Brief, relative to Application Serial No. 10/010,937 is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571) 273-8300) on February 12, 2007.

Theresa M. Palmateer

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APPENDIX OF CLAIMS

1. A method of making an elevator belt assembly having a plurality of cords within a jacket, comprising the steps of:

(a) aligning the plurality of cords in a selected arrangement;

(b) applying a selected jacket material to the cords to encase the cords in the jacket with a generally smooth, uninterrupted surface on an exterior of the jacket that is adapted to contact sheaves in an elevator system; and

(c) maintaining a selected tension on each of the cords on an individual cord basis while applying the jacket such that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from the generally smooth, uninterrupted surface on the jacket along the length of the belt assembly.

2. The method of claim 1, including maintaining different tensions on different ones of the cords.

3. The method of claim 1, including performing steps (a) through (c) to make a sample belt assembly;

inspecting the sample belt assembly;

determining whether a configuration of the sample belt assembly is consistent with a desired configuration; and

adjusting the tension maintained on at least one of the cords when the determined configuration is not consistent with the desired configuration.

4. The method of claim 3, including repeating the steps of claim 3 until the sample belt configuration is consistent with the desired configuration.

5. The method of claim 1, wherein the jacket material comprises a waxless urethane.

6. The method of claim 5, wherein step (B) includes using a molding device and including cooling at least one of the jacket material or the molding device as the applied jacket and the cords exit the molding device.

7. The method of claim 6, including applying a fluid to the jacket material or the molding device.

8. The method of claim 1, including using a molding device and wherein the molding device has an opening through which the belt assembly proceeds, the opening comprising a non-linear configuration such that a thickness of the jacket exiting the opening varies across the width of the jacket.

9. The method of claim 1, including finishing the exterior of the jacket by forcing the jacket into a shaping device that ensures that the jacket exterior has a desired configuration and cooling the belt assembly.

10 - 13. (Cancelled)

14. An elevator belt assembly, comprising:

a plurality of cords aligned generally parallel to a longitudinal axis of the belt along a length of the belt; and

a jacket over the cords, the jacket including a generally smooth, uninterrupted exterior surface extending along the entire belt length that is adapted to contact other components in an elevator system as the belt moves, wherein the jacket comprises a waxless polyurethane.

15. An elevator belt assembly made by the process, comprising the steps of:

(a) aligning a plurality of cords in a selected arrangement;

(b) applying a selected jacket material to the cords to encase the cords in the jacket with a smooth, uninterrupted surface on an exterior of the jacket that is adapted to contact sheaves in an elevator system; and

(c) maintaining a selected tension on each of the cords on an individual cord basis while applying the jacket such that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from the smooth, uninterrupted surface on the jacket along the length of the belt assembly.

16. The assembly of claim 15, wherein the process includes maintaining different tensions on different ones of the cords.

17. The assembly of claim 15, wherein the jacket material comprises a waxless urethane and wherein step (b) of the process includes using a molding device and including cooling at least one of the jacket material or the molding device as the applied jacket and the cords exit the molding device.

18. The assembly of claim 17, wherein the process includes applying a fluid to the jacket material or the molding device.

19. The assembly of claim 15, wherein the jacket material comprises polyurethane and the cords comprise steel.

20. The assembly of claim 15, wherein the process includes finishing the exterior of the jacket by forcing the jacket into a shaping device that ensures that the jacket exterior has a desired configuration and cooling the belt assembly.

21. A method of making an elevator belt assembly having a plurality of cords within a jacket, comprising the steps of:

(a) aligning the plurality of cords in a selected arrangement;

(b) applying a waxless urethane jacket material to the cords to encase the cords in the jacket with a generally smooth, uninterrupted surface on an exterior of the jacket that is adapted to contact sheaves in an elevator system; and

(c) maintaining a selected tension on the cords, respectively, while applying the jacket such that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from the generally smooth, uninterrupted surface on the jacket along the length of the belt assembly.

22. The method of claim 21, wherein step (b) includes using a molding device and including cooling at least one of the jacket material or the molding device as the applied jacket and the cords exit the molding device.

23. The method of claim 22, including applying a fluid to the jacket material or the molding device.

24. A method of making an elevator belt assembly having a plurality of cords within a jacket, comprising the steps of:

(a) aligning the plurality of cords in a selected arrangement;

(b) applying a selected urethane jacket material to the cords to encase the cords in the jacket with a generally smooth, uninterrupted surface on an exterior of the jacket that is adapted to contact sheaves in an elevator system;

(c) maintaining a selected tension on the cords, respectively, while applying the jacket such that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from the generally smooth, uninterrupted surface on the jacket along the length of the belt assembly; and

(d) using a molding device that has an opening through which the belt assembly proceeds, the opening comprising a non-linear configuration such that a thickness of the jacket exiting the opening varies across the width of the jacket.

25. (Cancelled)

26. An elevator belt assembly made by the process, comprising the steps of:

(a) aligning a plurality of cords in a selected arrangement;

(b) applying a waxless urethane jacket material to the cords using a molding device and cooling at least one of the jacket material or the molding device as the applied jacket and the cords exit the molding device to encase the cords in the jacket with a smooth, uninterrupted surface on an exterior of the jacket that is adapted to contact sheaves in an elevator system; and

(c) maintaining a selected tension on the cords, respectively, while applying the jacket such that the tension on the cords controls positions of the cords within the jacket and the cords are uniformly spaced from the smooth, uninterrupted surface on the jacket along the length of the belt assembly.

27. The assembly of claim 26, wherein the process includes applying a fluid to the jacket material or the molding device.

28. The method of claim 1, including moving the cords in a direction parallel to a length of the cords while applying the jacket material to the cords.

29. The method of claim 1, including adjusting the tension on at least one of the cords while applying the jacket material to the cords.

30. The method of claim 1, including maintaining the selected tension on each of the cords such that the selected tension is the same on opposite sides of a jacket application station used for applying the jacket material to the cords for each individual cord.

31. The method of claim 1, including applying the jacket material to the cords in a continuous and uninterrupted manner from near a first end of the cords to near a second, opposite end of the cords.

32 The assembly of claim 15, wherein the processing includes moving the cords in a direction parallel to a length of the cords while applying the jacket material to the cords.

33 The assembly of claim 15, wherein the processing includes adjusting the tension on at least one of the cords while applying the jacket material to the cords.

34 The assembly of claim 15, wherein the processing includes maintaining the selected tension on each of the cords such that the selected tension is the same on opposite sides of a jacket application station used for applying the jacket material to the cords for each individual cord.

35. The assembly of claim 5, wherein the process includes applying the jacket material to the cords in a continuous and uninterrupted manner from near a first end of the cords to near a second, opposite end of the cords.

36. The method of claim 24, including moving the cords in a direction parallel to a length of the cords while applying the jacket material to the cords.

37. The method of claim 24, including adjusting the tension on at least one of the cords while applying the jacket material to the cords.

38. The method of claim 24, including maintaining the selected tension on each of the cords such that the selected tension is the same on opposite sides of a jacket application station used for applying the jacket material to the cords for each individual cord.

39. The method of claim 24, including applying the jacket material to the cords in a continuous and uninterrupted manner from near a first end of the cords to near a second, opposite end of the cords.

40. The method of claim 1, comprising

providing a plurality of cords that are all of the same construction.

41. The elevator belt assembly of claim 14, wherein the plurality of cords are all of the same construction.

42. The elevator belt assembly of claim 15, wherein the entire plurality of cords are all of the same construction.

EVIDENCE APPENDIX

None.

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OT-4986

RELATED PROCEEDINGS APPENDIX

The Assignee of this application owns another application, Application Serial No. 09/921,803 filed August 3, 2001, including subject matter pertaining to a waxless urethane jacket on an elevator belt. At least some of the claims at issue in this appeal include a waxless urethane belt jacket.